



ATTACHMENT

Remarks

By this Amendment, independent claims 1 and 2 have been substantially amended to better define the invention and to more clearly avoid the prior art. In addition, dependent claims 3 and 4 have been amended consistent with the changes to claims 1 and 2, respectively. It is submitted that the present application is in condition for allowance for the following reasons.

Initially, it will be noted that an interview was conducted with the examiner on August 31, 2006. This interview was very helpful and the examiner is thanked for her consideration and suggestions. The rejections of the outstanding Office Action are now responded to consistent with the discussions and suggestions which occurred, as noted hereafter.

One general suggestion which the examiner made was to substantially revise the two independent claims for better clarity, including dropping "quadrant" from "quadrant part". Therefore, by this Amendment, claims 1 and 2 have been substantially revised for better clarity, including the use of "circular segment" for "quadrant part", as the two were equivalent in the claims.

Initially in the *Claim Rejections - 35 USC § 101* section of the Detailed Action, independent claims 1 and 2 were rejected for being directed to non-statutory subject matter. In particular, the examiner asserted that the method invention claimed was directed to "non-functional descriptive material" so that there was "no useful, concrete or tangible result produced". In order to overcome this rejection as broadly suggested by

the examiner at the interview, claims 1 and 2 have been amended to recite that the method of the present invention is for “producing a drawing of an elliptical structure”, and later in the claims it is further recited that this drawing is established “on a viewing medium” and “with an instrument”. It will be appreciated that the terms “viewing medium” and “instrument” are used in a broad sense, to cover both the situations where a pencil and paper are used to produce the drawing as well as where a computer and screen are used to produce the drawing. As noted at the interview, the inclusion of such tangible items and result should overcome the § 101 rejection; and it is submitted that these recitations are thus sufficient for this purpose. However, if the examiner would like to suggest any further revisions, the examiner is invited to telephone the undersigned so that any such further revisions can be agreed to quickly and easily.

In the *Claim Rejections - 35 USC § 102* section of the Detailed Action, independent claims 1 and 2 as well as respective dependent claims 3 and 4 were again rejected under 35 USC § 102 as being anticipated by the “Ellipse” print out. However, for the following reasons, it is submitted that these claims are allowable over this reference.

At the interview, this rejection was discussed in some detail; and while it was agreed that there was a difference between the present invention and that of the “Ellipse” print out, no agreement was reached on how to differentiate the two. In particular, it was the examiner’s position that in the steps of the present invention where a point or angle (length) of a circular segment was “arbitrarily” selected, such a selection step could include the points mathematically selected in the “Ellipse” print out; and that somehow or in general this made the points selected in the method of the “Ellipse” print

out “arbitrary” and readable on the recited steps of the present invention. It seemed at the interview that the term “arbitrary” was perhaps not the best word to be used in defining that aspect of the invention, but neither the undersigned nor the examiner could think of a better term or phrase.

In view of the discussions, it will be appreciated that both independent claims 1 and 2 have now been amended to avoid this prior art reference, and in particular to differentiate the claimed subject matter more completely from the “Ellipse” print out. Initially, it will be appreciated that the present method includes the step of establishing “predetermined” major and minor axes. At the interview, it seemed that these axes of an ellipse might be confused with such things as X and Y axes, to the extent that X and Y axes are generally considered to extend indefinitely. However, as evident from the present specification as well as the prior art including the “Ellipse” print out¹, the major and minor axes of an ellipse are defined as those line segments along (typically) the X and Y axes which extend from one side of the ellipse to the other. Thus, it will be understood by those of ordinary skill in the art that the major and minor axes, that is the lengths thereof, define those four points of the ellipse; and therefore in fact define all points of the mathematical ellipse having such major and minor axes (or line segments defining the four points).

With the major and minor axes initially established, the method of the present invention then proceeds with the steps of drawing a first quadrant of the elliptical structure using a series of connected circular segments, as typical in the art including the “Ellipse” print out. However, it is an advantage of the present invention that the

¹ “The diameters that are lines of symmetry are called the *major axis* 2a, and the *minor axis* 2b, where $a > b$.” [Emphasis not added.]

locations of the centers of the circular segments and the angular extent (length) of the circular segments are not predetermined by the predetermined major and minor axes, but rather the centers and angles are selected according to the desires of the user to best fit the needs of the user such as for the manufacture and construction of the elliptical structure. As noted at the interview, the angle (or in other words, length) of the first circular segment may be greater or lesser depending on, e.g., the fabrication techniques to be used for the construction of that segment. And according to the present invention, even the number of line segments to be used in drawing the quadrant is selectable to suit the needs of the user/building.

With reference then to claim 1 as exemplary, the first step i) in drawing step a) of the first quadrant is

arbitrarily establishing a first fixed point selected from an infinite number of usable points along an extension of the minor axis (emphasis added).

As the examiner will appreciate, to those of ordinary skill in the art, the term “arbitrarily” in this context means “based on or determined by individual preference or convenience rather than by necessity or the intrinsic nature of something”² or similarly “based on a desire or idea or chance rather than reason”³. The term “usable” is now recited in the claims as well to emphasize that with the present invention there are any number (in theory an infinite number) of points along the extension of the minor axis which can be established as the first fixed point in accordance with the present invention.

² See Merriam-Webster's Online Dictionary, 10th Edition. (On-line)

³ See Cambridge Dictionary of American English. (On-line)

In contrast, the method of the “Ellipse” print out clearly recites that there is one and only one point on the extension of the minor axis which is to be used for any given or predetermined major and minor axes. In particular, the equivalent steps of the “Ellipse” print out to that above are:

- (1) *Start with the box AFDO with width equal to the half-span and height equal to the rise.* [Or in other words, start with predetermined major and minor axes as either one defines the other.]
- (2) *Draw AD, and* [Where AD is a line connecting ends of the major and minor axes in the selected quadrant.]
- (3) *then from F draw a perpendicular to this line, which intersects the minor axis at H.* [Where point F is the far end corner of the selected quadrant.]

It is thus clearly evident to those of ordinary skill in the art from the above that there is nothing “arbitrary” or preferential about the selection of point F; and in fact there is only one point F once the major and minor axes are determined so there is no selection to be made from “an infinite number of usable points”.

With reference again to claim 1, the next step li) in drawing step a) is

drawing the first circular segment, beginning at the farthest end point of the minor axis from said first fixed point, through an arbitrary angle selected from an infinite number of usable angles ... (emphasis added).

Again, the terms “arbitrarily” and “usable” are used in the same sense as noted above; and the use of these terms in contrast to the mathematically precise method by which the exact angle to be used in the “Ellipse” print out is selected.

It will be appreciated that the same analysis as noted above applies throughout the remainder of claims 1 and 2 and can be contrasted in the same manner with the mathematically precise steps of the “Ellipse” print out.

It is thus clear from the above that the “Ellipse” print out does not teach or make obvious any steps such as those described above. At the interview, the examiner also expressed the concern that the method of the present invention could result in the same points and angles as are used in the “Ellipse” print out to draw the approximate ellipse thereof. While this is true, it is also irrelevant. The test in determining anticipation or obviousness is whether the prior art reference teaches the claimed steps. The fact that the results of two different methods is the same is not surprising since the object is the same, but nothing in achieving the same result establishes that the steps used in one method make those different steps in the other method obvious – and as is readily evident from the above discussion, the steps of the “Ellipse” print out do not anticipate nor make obvious the specifically recited steps of the present invention.

Therefore, for all of the foregoing reasons, it is submitted that amended independent claims 1 and 2 are neither disclosed nor made obvious by the “Ellipse” print out so that these claims are now allowable over this reference. Similarly, it is submitted that claims 3 and 4 respectively dependent from claims 1 and 2 are likewise allowable.

For all of the foregoing reasons, it is submitted that the present application is in condition for allowance and such action is solicited.